

B' d) a p-region nitride semiconductor layer structure on said active layer including,
a p-type cladding layer,
a p-type low-doped layer of $\text{Al}_s\text{Ga}_{1-s}\text{N}$ ($0 < s < 1$) on said p-type cladding layer, having a concentration of the p-type impurity which is lower than that of said p-type cladding layer; and
a p-contact layer of GaN on said p-type low-doped layer, having a concentration of the p-type impurity which is higher than that of said p-type low-doped layer.

REMARKS

Summary

By this Amendment, Claims 1-10 and 21-34 have been canceled in favor of new Claims 35-44.

Accordingly, non-elected Claims 11-20 and new Claims 35-44 are now pending in the application.

Election/Restriction

Applicants acknowledge the Examiner's actions regarding the election/species requirement, including the withdrawing of Claims 11-20 from consideration.

Specification

In an effort to improve the idiomatic form of the lengthy specification, Applicants are in the process of preparing a substitute specification which will be submitted shortly by way of a Supplemental Amendment.

Claim Objections and 35 U.S.C. ¶112, second paragraph

It is believed that the Examiner's formal objections regarding the claims have been overcome by the cancellation of Claims 1-10 and 21-34 in favor of new Claims 35-44.

35 U.S.C. ¶102 and ¶103

Claims 1-10 and 21-34 were variously rejected under 35 U.S.C. §102 (anticipation) or §103 (obviousness) as being unpatentable over the cited references as follows:

<i>Claims</i>	<i>Rejection</i>	<i>Reference</i>
1-7 and 21-31	§102	JP 11-031841
1-7 and 21-31	§102	JP 11-068155
8-10 and 31-34	§103	JP 11-031841
8-10 and 31-34	§103	JP 11-068155

As discussed below, Applicants respectfully contend that the new Claims 35-44 contain features not found or suggested in the cited references.

Claim 35 is at least partially characterized in that the first n-region multi-film layer includes an undoped lower film, a middle film which is doped with an n-type impurity, and an undoped upper film, and in that the first n-region multi-film layer is positioned between the n-type contact layer and the active layer. This configuration is not taught or suggested by the cited references.

Claim 36 is at least partially characterized in that the n-region nitride semiconductor layer includes a first n-region multi-film layer and a second multi-film layer, and in that the first and second multi-film layers are positioned between the n-type contact layer and the active layer. This configuration is not taught or suggested by the cited references.

Claim 37 is at least partially characterized in that the n-region multi-film layer contacts the active layer, and in that the n-region multi-film layer is made of

a laminate of third nitride semiconductor films having a thickness of less than 100Å and fourth nitride semiconductor films having a thickness of less than 100Å. This configuration is not taught or suggested by the cited references.

Claim 44 is at least partially characterized by the combination including the p-type cladding layer composed of GaN and the p-type low-doped layer of $\text{Al}_s\text{Ga}_{1-s}$ ($0 < s < 1$), and Claim 45 is at least partially characterized by the combination including the p-type low-doped layer of $\text{Al}_s\text{Ga}_{1-s}\text{N}$ ($0 < s < 1$) and the p-contact layer of GaN. Again, these configurations are not taught or suggested by the cited references.

In view of at least the above, Applicants respectfully contend that the present Claims 35-44 are neither anticipated by nor obvious in view the cited references.

Obviousness-type Double Patenting

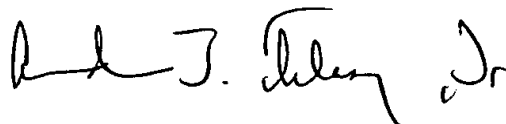
Applicants also respectfully contend that the obviousness-type double patenting rejection has been overcome by the cancellation of the rejected claims in favor of new Claims 35-44.

Conclusion

No other issues remaining, reconsideration and favorable action upon the
Claims 35-44 now-pending in the application are requested.

Respectfully submitted,

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